

Serial No. 10/791,859

Attorney Docket No. 01-571

LISTING OF CLAIMS:

1. (Currently amended) A pressure sensor comprising:  
a sensor chip for detecting pressure;  
a casing for accommodating the sensor chip; and  
an atmosphere introduction port for introducing an atmosphere pressure as a reference pressure into the sensor chip,  
wherein the atmosphere introduction port is disposed on the casing, and

wherein the casing includes a groove for discharging a water drop adhering around the atmosphere introduction port to an outside of the casing, and

wherein the casing further includes a notch portion for discharging the water drop that is gathered in the groove.

2. (Original) The sensor according to claim 1,  
wherein the casing further includes a chamber for accommodating the sensor chip,  
wherein the casing has a casing top, which faces atmosphere, and

wherein the atmosphere introduction port connect between the casing top and the chamber so that the atmosphere pressure is introduced into the chamber through the atmosphere introduction port.

3. (Original) The sensor according to claim 2,  
wherein the casing top includes a periphery and a concavity having a bottom,

wherein the periphery of the casing top surrounds the concavity of the casing top,

wherein the atmosphere introduction port has an outer opening on the bottom of the concavity, and

wherein the groove is disposed on the periphery of the casing top.

4. (Currently amended) The sensor according to claim 3,  
wherein the periphery of the casing top is higher than the bottom of the concavity, and

wherein the periphery includes thee notch portion having a bottom so that the bottom of the notch portion and the bottom of the concavity provide a same plane so as to discharge the water drop disposed on the bottoms.

5. (Original) The sensor according to claim 4,  
wherein the groove includes first and second ends, and the notch portion includes first and second sides, and  
wherein the first end of the groove is disposed on the first side of the notch portion, and the second end of the

Serial No. 10/791,859

Attorney Docket No. 01-571

groove is disposed on the second side of the notch portion so that the groove surrounds the concavity of the casing top 13 except for the notch portion.

6. (Original) The sensor according to claim 5, wherein the water drop disposed on the periphery of the casing top is gathered into the groove so that the water drop is discharged from the groove through the notch portion to the outside of the sensor, and

wherein the water drop disposed on the bottom of the concavity is discharged from the notch portion to the outside of the sensor.

7. (Original) The sensor according to claim 6, wherein the bottom of the concavity is slanted so that the bottom of the concavity disposed around the outer opening of the atmosphere introduction port is the highest.

8. (Original) The sensor according to claim 1, wherein the groove has a predetermined cross section, which is determined such that the water drop disposed in the groove is movable by capillary phenomenon, and

wherein the cross section of the groove has a V-shape, a U-shape or a square shape.

9. (Original) The sensor according to claim 8, wherein the casing is made of resin, and wherein the sensor is mounted in an engine compartment of a vehicle so that the sensor detects an intake manifold pressure.

10. (Original) The sensor according to claim 9, wherein the casing top faces a sky so that the casing top is exposed to the atmosphere in a case where the sensor is mounted in the engine compartment.

11. (Original) The sensor according to claim 1, wherein the casing further includes a cover for covering the atmosphere introduction port.

12. (New) A pressure sensor comprising:  
a sensor chip for detecting pressure;  
a casing for accommodating the sensor chip; and  
an atmosphere introduction port for introducing an atmosphere pressure as a reference pressure into the sensor chip,  
wherein the atmosphere introduction port is disposed on the casing,

wherein the casing includes a groove for discharging a water drop adhering around the atmosphere introduction port to an outside of the casing, and the casing further includes a

Serial No. 10/791,859

Attorney Docket No. 01-571

chamber for accommodating the sensor chip,

wherein the casing has a casing top, which faces atmosphere, and the casing top includes a periphery and a concavity having a bottom, the periphery of the casing top surrounding the concavity of the casing top, the groove being disposed on the periphery of the casing top, the periphery of the casing top being higher than the bottom of the concavity,

wherein the atmosphere introduction port connects between the casing top and the chamber so that the atmosphere pressure is introduced into the chamber through the atmosphere introduction port, the atmosphere introduction port having an outer opening on the bottom of the concavity, and

wherein the periphery includes a notch portion having a bottom so that the bottom of the notch portion and the bottom of the concavity provide a same plane so as to discharge the water drop disposed on the bottoms.

13. (New) The sensor according to claim 12,  
wherein the groove includes first and second ends, and the notch portion includes first and second sides, and  
wherein the first end of the groove is disposed on the first side of the notch portion, and the second end of the groove is disposed on the second side of the notch portion so that the groove surrounds the concavity of the casing top 13 except for the notch portion.

14. (New) The sensor according to claim 13,  
wherein the water drop disposed on the periphery of the casing top is gathered into the groove so that the water drop is discharged from the groove through the notch portion to the outside of the sensor, and

wherein the water drop disposed on the bottom of the concavity is discharged from the notch portion to the outside of the sensor.

15. (New) The sensor according to claim 14,  
wherein the bottom of the concavity is slanted so that the bottom of the concavity disposed around the outer opening of the atmosphere introduction port is the highest.